



The Feasibility of Learning Media for MAKEHATI Magazine on Sub-Material on Biodiversity Utilization

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Abstract

This study aims to determine the feasibility of magazine media in the sub-material of the use of Indonesia's biodiversity for class X SMA. The method used for data analysis is a qualitative descriptive technique, namely calculating the value of magazine media. The validation measurement scale of the magazine media instrument used is the Likert scale with the instrument using positive questions with a rating of 4 (very good), 3 (good), 2 (bad), 1 (very bad). Magazine validation was carried out by 5 validators including 2 lecturers from FKIP UNTAN and 3 biology subject teachers at SMAN 1 Sengah Temila, SMAN 2 Sengah Temila and SMA Santo Benediktus Pahauman. Based on the results of data analysis from the five validators by giving a value for each of the criteria there are 3 (good) and 4 (very good) and the CVR value of all criteria is 0.99, then the next step will be to calculate the CVI value and obtain a total, namely 1 (valid category). With this magazine can be used in learning.

Keywords: *magazine, media, learning*

Introduction

Learning is the most basic activity of education. This means that success or failure to achieve this educational goal really depends on how the learning process takes place at school. According to Susilana and Riyana (2008) learning is how students learn directly in school to gain knowledge, skills, and positive values by using. Different Learning involves two parties, namely the teacher as facilitator who facilitates students in the use of media, learning and students as learners.

Learning media are divided into four groups, namely: (1) materials derived from printing technology; (2) media from audiovisual technology; (3) computer technology facilities; (4) a combination of print media and computers. Printing technology is a method used to facilitate the transportation of documents, such as books and visual static documents created by mechanical or photographic printing processes. Media groups created using printing technology include text, graphics and photos (Arsyad. 2015). According to Pratiwi, Gardjito, and Hamidah (2017) explain that magazines are print media that contain text by adding images, presented in an attractive manner and displayed in a simple way to facilitate understanding of concepts.

Print media includes documents prepared on paper that contain information for learning. This print media provides information through writing and pictures that

clarify the message or information that has been provided. According to Arsyad (2015) media, print has a number of advantages in the learning process, namely: (1) students, can, learn and progress, at; their own pace(2) in addition to being able to repeat the material on print media, students follow a logical sequence of thoughts; (3) the combination of text and images on the printed page can add, attract, attract and facilitate students' understanding of the information presented in two formats, verbal and visual; (4) students, will, participate, and interact actively because they have to answer questions and organize assignments; (5) Content, information in media, print must be, updated and, revised, appropriate, with new developments and discoveries in the field of science. In addition to the advantages, print media also has disadvantages, namely: (1) unable to display letters and moving images on printed pages; (2) high printing costs when displaying colorful illustrations, paintings, and photographs; (3) printing can take a few days to a few month, depending, on the device and the complexity of the information on the printed page; (4) the printed section of the lesson should be designed in such a way that it is not too long, which may cause inconvenience to students; (5) In general, print media can work well if the learning objective is cognitive; (6) Print media that is not properly cared for will quickly become damaged or lost.

Based on Interview results with a biology teacher in the learning process, the teacher only uses textbooks and the internet. In the textbook there are a few pictures of plant examples so that when delivering the sub-material on the use of biodiversity, the teacher has difficulty showing examples of plant pictures that are not included in the textbook. As for the use of the internet that can not always be used because of frequent network disturbances. If this condition is allowed to continue students will find it difficult to understand the learning material.

With the use of this magazine, the media can overcome problems in students. Magazines are print media that are used as learning aids. So far, magazines have only been used as information media to present actual news. However, if magazines are used as learning media, they can present information related to scientific theories or natural sciences (Asfuriyah, 2015).

Magazine media certainly have differences with other learning media. According to Beatha (2018), the difference between magazine media and other learning media is that it not only has a shape but a variety of texts and images combined with very attractive colors, there is also additional knowledge about scientist profiles and find words.

The components in the magazine according to Kurniawati (2015) are as follows: (1) cover, containing the title of the magazine and the topic to be discussed; (2) editors, on this page the authors, media and materials experts; (3) table of contents, containing the location of the title page of the discussion carried out in the magazine; (4) content pages, consisting of several sections including biological information, profiles of several scientists, photos, microbial diseases and biological interpreters; (5) back cover, containing quizzes and author biodata.

Judging from its shape, magazine media is developed in full color. This helps students not to get bored while reading the resulting magazine. The material is arranged consistently from simple to complex so that it is easily understood by students, without causing confusion for students. The pictures introduced in the magazine are also equipped with sources so that students can access and improve their own knowledge (Kurniawati, 2015). It is hoped that this magazine media is feasible to use and can create interesting, innovative and useful learning, so that students better understand the learning material.

Methods

In this study, magazines will be verified in three dimensions, namely language, content, and construction, to determine the validity and feasibility of magazines as media for learning in the sub-material of the utilization of Indonesia's biodiversity for class X SMA.

The information gathered on the magazine media validation qualitative descriptive data. The Likert scale is used to assess the credibility of periodical media. The Likert scale is used to assess a person's or group's attitudes, opinions, and perceptions of an item or a social phenomena (Sugiyono, 2017). This study's instrument employs a positive statement, a Likert scale answer style, and a positive question score of 4 very excellent, 3 good, 2 very good, and 1 not good.

A team of five validators, including two Education lecturers from FKIP Untan Pontianak and three Biology subject teachers from SMA Negeri 1 Sengah Temila, SMA Negeri 2 Sengah Temila, and SMA Santo Benedict, is responsible for this media validation. The purpose of validation is to establish the value of correct media consumption. Lawshe data analysis was used to examine data from the validation of magazine media (1975).

Results and Discussion

Magazines make studying more engaging, which makes learning more comfortable. Magazine media was chosen as a learning medium because of its form, diverse texts and graphics designed in extremely appealing colors, comfort, non-boringness, and ability to pique readers' attention. More information may be found in the image bel



Figure 1. Front Cover of a Magazine

The image above is the magazine's front cover, which contains the title and topic to be discussed.



Figure 2. contents of the

The picture above is one of the magazine's contents. The contents of the magazine consist of several rubrics, namely spotlight, scientific, and get learn more.

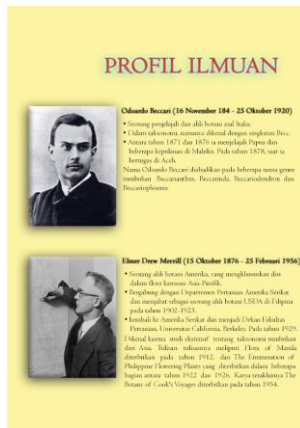


Figure 3. Back Cover

The picture above is the back cover of a magazine that contains a scientist's profile.

Magazine media was created using *Adobe Photoshop*, then printed using art paper for the cover, and glossy paper for the contents with A4 size paper. The magazine in this study consists of several parts, namely: front cover, editor, basic competence, table of contents, content page, crossword puzzle, and back cover in the form of scientist profiles.

Before validating the magazine, the instrument used for magazine validation needs to be validated first. The results of the evaluation of the instrument with 2 validators who are 22 biology lecturers of FKIP Untan shows that the instrument on this validation sheet is very feasible to use. After instrument validation, it will be continued with magazine validation. Magazine validation was carried out by 5 validators, namely 2 Biology lecturers from FKIP Untan Pontianak and 3 high school biology teachers, namely SMA Negeri 1 Sengah Temila, SMA Negeri 2 Sengah Temila and SMA Santo Benedict. Journal media validation data analysis by media experts is presented in Table 1.

Table 1: Magazine Media Data Analysis

Criteria	Validator					Average (CVR)
	1	2	3	4	5	
1	3	4	3	4	4	0,99
2	4	3	4	4	3	0,99
3	4	3	4	4	4	0,99
4	4	4	4	4	4	0,99
5	4	4	4	4	4	0,99
6	3	3	3	4	4	0,99
7	4	4	4	4	4	0,99
8	4	4	4	4	4	0,99
9	4	4	4	4	4	0,99
10	3	4	3	4	4	0,99
11	3	4	4	4	4	0,99
12	3	3	4	4	3	0,99
CVI						0,99

The criteria in the table above are as follows: (1) conformity with sub-materials of biodiversity utilization with magazine media; (2) color compatibility of plant images, layout, and background color; (3) the typeface used is attractive and the font size is easy to read; (4) the placement of images is done proportionally without disturbing the writing; (5) the quality of the pictures in the magazine, clear and easy to observe; and (6) ease of remembering plant names. (7) Magazines have a longer shelf life than a year; (8) usage of flexible media both indoors and outdoors; (9) the use of language to convey the information is simple to grasp; (10) the use of language in magazine media is consistent with Puebi norms; (11) sentences in magazines are simple to understand; and (12) magazine media is portable.

Of the 12 criteria, there are three aspects that are assessed, namely: language, content and construction. For language aspects, see numbers 9, 10 and 11. And for content aspects, see numbers 1, 2, 5 and 6. The final aspect is building see numbers 3, 4, 7, 8, and 12.

According to Lawshe, CVR provisions are as follows: (1) if the number of respondents who agree or strongly agree is less than half, the CVR value obtained

will be smaller/minus (-); (2) if the number of respondents who agree or strongly agree is half of the total number of respondents, the resulting CVR value is 0; (3) if all respondents agree/good or strongly agree/very good, the CVR value is 1. (set at 0.99 adjusted for the number of respondents). Because the number of respondents used in this study was 5 then the significance value of CVR = 0.99.

Based on the validation findings of five validators who offer a value for each criterion, we can see in table 1 that there are 3 (good) and 4 (very good), and the CVR value for all criteria is 0.99. After obtaining the CVR value, the CVI value will be calculated, yielding a total of 0.99. (valid category). As a result, this magazine is appropriate for educational purposes.

According to a study done by Beatha (2018), magazines are appropriate for usage in learning. The effect is based on the magazine validation findings, which are deemed legitimate by getting data analysis values of 0.99 CVR and 0.99 CVI.

Conclusion

Based on the outcomes of this study, it is reasonable to conclude that MAKEHATI magazine (Majalah Keanekaragaman Hayati Indonesia) is acceptable for use as a learning medium in the sub-material of Indonesian biodiversity utilization for class X SMA. This conclusion is based on the results of the media validation analysis, which were reviewed by five validators by giving a value to each criterion, and the CVR value of all criteria is 0.99 and a CVI value of 1, indicating that the MAKEHATI magazine media is valid and viable to use.

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